

REMARKS

In accordance with the foregoing, claims 1, 22-25, and 27-28 have been amended. No new matter is being presented, and approval and entry are respectfully requested.

REJECTIONS UNDER 35 U.S.C. §§ 102, 103:

All claims stand rejected under 35 U.S.C. § 102 or § 103 over Forrester, U.S. Pub. No. 2003/0017833. In particular, claims 1-5, 7, 9-12, 20-23, 25 and 27-28 stand rejected under 35 U.S.C. § 102(b), and claims 6, 8, 13-19, 24 and 26 stand rejected under 35 U.S.C. § 103(a). In view of the amendments set forth above and the remarks set forth below, the outstanding rejections are respectfully traversed.

By way of review, the present application relates to a multi-antenna transceiver system. By way of example, FIG. 2 illustrates first section 212a that transmits two bands of signals in a first system, namely GTX1 & GTX2, and transmits and receives signals in a second system, namely CDMATX and CDMARX. As set forth in paragraph [0004], the transmission in a GSM system may use a single-pole multi-throw switch, such as a single-pole fourth-throw switch. However, as "more I/O RF ports are needed ... the T/R switch becomes more complex and performance degrades as the number of I/O RF ports increases." Id. In other words, the present application relates to a first transmit path and a first receive path for a first wireless system, and a first transmit path and a first receive path for a second wireless system, wherein the first transmit path transmits at least two frequency bands.

By way of review, Forrester relates to a system and method for providing auxiliary reception in a wireless communications system. Forrester is unconcerned about a first, e.g. GSM TX RF, power burst (in other words a TDMA power burst) coupled into the receiver. Thus, only duplexers and diplexers are used. Duplexers can provide better isolation than switches but the insertion loss is too much to the transmitter. The GSM transmit signal (a TDMA transmit signal) is GMSK modulated constant envelope. As such, a power amp can be driven Class C and into compression for the best possible efficiency for lowest current consumption. To keep transmitter current consumption as low as possible during a call, the losses between the GSM power amp (a TDMA power amp) and the antenna are as small as possible. Because the power amp is in compression (increase in input power only causes a slight increase in output power), an increase

Appl. No.: 10/823,344

Attorney Docket No.: 040148

in output power to overcome additional loss comes at a big expense in current consumption. It takes a lot of current into the power amplifier to increase the power amplifier RF output power 0.2dB to 0.5dB. Therefore, duplexers are never used for GSM transceivers (that is, TDMA transceivers). In other words, because Forrester uses duplexers, Forrester only relates to transmission in a single wireless system, namely CDMA. Forrester does not relate to transmission in first and second wireless systems, such as combined TDMA and CDMA systems.

Forrester in FIG. 5 illustrates that "main antenna system 240 may include, for example, the main antenna 110, a cellular/PCS diplexer 250, a PCS duplexer 260, a cellular duplexer 270, a PCS low noise amplifier (LNA) 280, a cellular LNA 290, a PCS band filter 300, a cellular band filter 310, a PCS mixer 320, a CDMA mixer 330, an FM mixer 340, a frequency divider 350, a CDMA IF filter 360, an FM IF filter 370, a main IF demodulator 380, the main controller 210, the selector module 190, a first oscillator 390 or a second oscillator 400." See Forrester at [0033]. In other words, Forrester transmits and receives two bands of a first system (a CDMA system), namely cellular and PCS, but only receives one band of a second system (GPS band filter 500 in FIG. 5) or one band of a third system (FM mixer 340 in FIG. 5). Forrester never transmits a second system because the PCS duplexer 260 and cellular duplexer 270 *only* transmit and receive CDMA.

On the other hand, all independent claims particularly set forth transmitting at least two TDMA frequency bands.

Reconsideration and withdrawal of the outstanding obvious and anticipation rejections are respectfully requested.

CONCLUSION

In light of the amendments and remarks set forth above, Applicants respectfully submit that the application is in condition for allowance, which action is earnestly solicited.

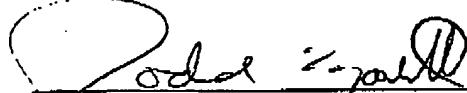
Appl. No.: 10/823,344

Attorney Docket No.: 040148

The Commissioner is hereby authorized to charge any fees which may be required to
Deposit Account No. 17-0026 in the name of QUALCOMM, Incorporated.

Respectfully submitted,

Dated: 12/4/2006


Todd M. Marlette, Reg. No. 35,269
Phone: (858) 651-7985

QUALCOMM Incorporated
Attn: Patent Department
5775 Morehouse Drive
San Diego, California 92121
Telephone: (858) 845-4265
Facsimile: (858) 658-2502